

ORIGINAL

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December 2, 1999

VIA HAND DELIVERY

Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals, TW-A325
445 12th Street, S.W.
Washington, D.C. 20554



Re: Written Ex Parte Presentation - WT Docket 99-168
*In the Matter of Service Rules for the 746-764 and 776-794
MHz Bands, and Revisions to Part 27 of the Commission's
Rules.*

Dear Ms. Salas:

Please find attached The Boeing Company's views on how a "Band Manager" concept might be implemented for Private Wireless Licensees, in connection with the above-referenced proceeding.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy are being filed with your office for inclusion in the public record in the above-referenced proceeding. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

Sheldon R. Bentley / *BER*

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Manager,
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Attachment

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**The Boeing Company's Comments on the Proposal for a
"Band Manager" Methodology**

I. INTRODUCTION

The Boeing Company appreciates this opportunity to submit its views regarding the evolving concept that multiple Band Managers engage in a "competitive bidding process"¹ to supply "new" spectrum to Private Wireless (P/W) users. Boeing is pleased to see that the FCC and Congress are considering new spectrum allocations² for Private Wireless users which, in Boeing's view, is needed in order to replace private spectrum lost to commercial applications. Boeing has previously submitted comments in other proceedings, urging the Commission to preserve "pure" private spectrum for internal communications systems³ and to stop and even reverse spectrum erosion from private to commercial licenses.⁴ Here, Boeing focuses its comments on allocation methods, not allocation magnitudes.

Boeing believes that the Band Manager concept as currently envisioned is not a panacea. A series of traditionally quick spectrum auctions will not optimize revenue nor solve Private Wireless inequities. There is no guarantee that Band Manager auctions will succeed. Instead, this methodology may only serve to compound the already significant structural Private Wireless problems that can and should be avoided. Boeing hopes that the shortened timeline⁵ to implement competitive bidding, and the FCC's enthusiasm to embrace

¹ See S. 1122, 106th Cong. (May 25, 1999) (Appropriations Bill for the Department of Defense ("DOD") for FY 2000).

² See *id.* (recommending 6 MHz for private wireless use); S. 1824, 106th Cong. (Oct. 28, 1999) (recommends the allocation of 12 MHz for private wireless licensees). See also *In the Matter of Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millenium*, Policy Statement, FCC 99-354 (rel. Nov. 22, 1999) ("1999 FCC Policy Statement") (recommending 10 MHz of spectrum for private use).

³ See The Boeing Company *Ex Parte* Presentation (Sept. 25, 1995) in PR Docket No. 92-235; The Boeing Company *Ex Parte* Presentation (Feb. 21, 1997) in PR Docket No. 92-235; Reply Comments of The Boeing Company, at pp. 9-10, in RM-9267 (filed July 16, 1998); Comments of The Boeing Company, at p. 13, in WT Docket No. 99-87 (filed Aug. 2, 1999); Reply Comments of The Boeing Company, at p. 4, in WT Doc. No. 99-87 (filed Sept. 30, 1999).

⁴ See Reply Comments of The Boeing Company, at p. 7, in RM-9267 (filed July 16, 1998); The Boeing Company *Ex Parte* Presentation (May 20, 1999), at pp. 3-5, in WT Docket No. 99-87; The Boeing Company *Ex Parte* Presentation (July 2, 1999), at p. 4, in WT Docket No. 99-87; Comments of The Boeing Company, at p. 13, in WT Docket No. 99-87 (filed Aug. 2, 1999).

⁵ DOD Appropriations Act FY 2000 calling for deposits this fiscal Year.

the Band Manager concept, will leave the FCC time to consider and implement Boeing's recommendations herein.

Boeing recommends that the Commission consider the specific needs of two fundamentally different Private Wireless market segments which were identified in recent draft legislation: Private Wireless Systems and Private Wireless Providers.⁶ Boeing believes that new spectrum should be earmarked for both and governed by two methodologies: (1) the establishment of a Band Administrator to serve the needs of Private Wireless System Users; and (2) the establishment of a "Band Re-Marketer" to serve the needs of Private Wireless Service Providers. Boeing does not support the idea of multiple contractors, each performing on identical contracts, "competing" to continuously resell spectrum as "one size fits all" Band Managers for Private Wireless consumers.

Because of the economic importance of internal System Users and regional Service Providers, Boeing believes that establishing a bright line should differentiate their spectrum and spectrum allocation processes. Service Providers should look to the market mechanisms of Band Re-Marketers for regional assignments. Likewise, System Users could look to a Band Administrator for access to spectrum, much like they look to the FCC today to obtain licenses at predictable prices, but access would be granted on the basis of efficiency.

II. TWO DIFFERENT CUSTOMER SETS JUSTIFY TWO FOCUSED VENDORS

Private Wireless Industrial/Business Radio licensees are not one homogeneous class of FCC regulated users (as FCC terminology appears to suggest⁷) but are, instead, two distinctly different segments. Both sets of licensees use the same spectrum, purchase similar

⁶ "Private Wireless System" and "Private Wireless Provider" are defined in S. 1824, Section 3, as follows:

PRIVATE WIRELESS SYSTEM- The term "private wireless system" means an infrastructure of telecommunications equipment and customer premises equipment that is owned by, and operated solely to meet the internal wireless communication needs of, an industrial, business, transportation, education, or energy (including utilities and pipelines) entity, or other licensee."

PRIVATE WIRELESS PROVIDER- The term "private wireless provider" means an entity that owns, operates, or manages an infrastructure of telecommunications equipment and customer premises equipment that is--

(A) used solely for the purpose of meeting the internal communications needs of another entity that is an industrial, business, transportation, education, or energy (including utilities and pipelines) entity, or similar end-user;

(B) neither a commercial mobile service (as defined in section 332(d)(1)) nor used to provide public safety services (as defined in section 337(f)(1)); and

(C) not interconnected with the public switched network.

⁷ See 47 C.F.R. § 90.1(b). See also *Implementation of Sections 309(j) and 337 of the Communications Act of 1934, as Amended*, WT Docket No. 99-87, Notice of Proposed Rulemaking, 14 FCC Rcd 5206, at ¶ 11 (1999).

radios, and comply with the same regulations, but because of their different goals and organizational and economic circumstances, they have fundamentally different and sharply contrasting needs. These fundamental differences must be understood in order to appreciate why specialized Band Managers – *i.e.*, an Administrator and a separate Re-Marketer -- are desirable. The Commission should develop equitable allocation mechanisms (via competitive bidding⁸), and should not amalgamate fundamental customer differences and perpetuate policy inequities by having one auction and multiple winning Band Managers performing under identical contracts.

Boeing provides the following chart to illustrate the differences of these two target markets⁹:

Market Segment	P/W System (Users)	P/W (Service) Providers
Application	Internal Multi-functional Communications Tailored and proprietary	Regional Dispatch Orientated Services Designed for targeted markets
SIC Code	All Major Industrial Groups ¹⁰	4812 (Radio Communications)
Core competency	All businesses (other than Communications)	(Regional) Communications business
Spectrum Financial Goal	Cost avoidance	Profit, Market share, ...
Spectrum Planning Horizon	Long, multi-year	More near term, Opportunistic
Ability to raise capital for obtaining spectrum	Low (outside of core business)	Low to high - depends on spectrum needed (& current shortage or surplus)
Spectrum costs limited by	Allocations on internal users (cost recovery)	Competition from alternative services
Executive awareness of FCC auction authority	Low, Too many layers of management (Only core issues rise to Executive levels)	High, Growth requires understanding of spectrum markets (availability and costs)
Spectrum Provider	Band Administrator	Band Re-Marketer

A. Private Wireless System Users

Boeing urges the Commission to remain cognizant of the reality that System Users are unaccustomed to having to bid for spectrum for private use. Consequently, this group will be at a tremendous disadvantage if the Commission decides to adopt a "Band Manager" methodology. Boeing believes that these System Users are likely to be caught unprepared to participate in auctions proceedings.¹¹ Further, they are certainly new to the concept of

⁸ S. 1122, 106th Cong. § 8107.

⁹ Please note that company size is not a valid discriminator between System Users and Service Providers – each consists of large and small companies.

¹⁰ Major Groups 01-09 (Agricultural, Forestry and Fishing), 10-14 (Mining), 15-17 (Construction), 20-39 (Manufacturing), 40-47 and 49 (Transportation, Electric, Gas, and Sanitary Services), and certain Services and Public Administration.

¹¹ System Users today, who spend staff time to license their system's frequencies, are geared to the current FCC form filing processes, the present flow times, the predictable coordination and licensing costs and the cooperative (*i.e.*, non-competitive) environment built up over

developing auctions strategies necessary in acquiring the appropriate frequencies for their needs at an appropriate bid.

Boeing would venture to guess that few executive level managers realize that they may soon be "forced" to acquire spectrum at auctions. To many, this possibility is almost unbelievable. Forcing private users to the auction block to acquire internally used spectrum, or even requiring them to bid from a Band "Re-Marketer" concern, where prices may be variable and uncertain, would also be considered unthinkable.

Free market advocates, who place market efficiency above all else, including technical spectrum efficiency, correctly believe that auctions will place spectrum in the hands of those "employing it for its highest and best use." However, Private Wireless spectrum has been justified for decades and users seeking any new allocation via market competition can only add new auction costs to their production costs and pass them on to consumers. Private Wireless users believe auctions are synonymous with taxing and inflating the price of future goods and services.

B. Private Wireless Service Providers¹²

Now contrast this environment to the other set of Private Wireless consumers: Service Providers. These companies, independent of size, are competitors. They share the same business purpose (providing regional radio services) and core competency (designing and operating regional radio systems). They compete in most regions but in some locations one is a predominant supplier with little or no local competition, except from the packaged services of nationwide carriers or CMRS Providers.

Because Boeing is not a Service Provider the following assertions may naturally be questioned. However, it is unquestionable that Service Providers (SIC Code 4812) have as

many decades. In most companies, large or small, spectrum licensing is a necessary evil that has to be managed. Salaried staffs prepare license applications, office assistants cut checks, and granted licenses are filed in cabinets after key data is entered into private data bases. These employees report into various places throughout their companies (except for coordinations that are performed by outside licensed coordinators). Some report to Facilities (who cut the lawn and insure an adequate supply of toilet paper, etc.), others report to Operations that utilize milling machines and radios, and still others report to Contracts departments. The licensing of spectrum today is performed by employees in corporate America that know the functional value of the spectrum (safety, convenience, productivity, etc.) but are ill-equipped to estimate the market and monetary value of the spectrum. Furthermore, many frequency-licensing functions (especially in large companies) report to managers six levels or more below a Group or Division President. Intervening layers of management are interested in spectrum costs as they likely are briefed once or twice a year on their radio systems performance, its costs and perhaps (but not likely) a few spectrum policy questions. Spectrum to most corporations (using spectrum internally only) is quite simply a readiness and cost predictability issue.

¹² Boeing has consistently conveyed to the Commission that Service Providers do not and cannot meet all of Boeing's private radio needs.

their focus the management of for-profit communications businesses. Since the Balanced Budget Act of 1993, some of the very largest vendors have obtained spectrum at auctions and others (e.g. NEXTEL) have obtained spectrum by privileged licensing techniques that "avoided" auctions. Either way, today's regional Service Providers now compete in a communications market with generic nationwide services or other regionally tailored services. Independent of company strategies, their goal is growing a lucrative business. The basis for their business and its growth is availability of spectrum. One must logically ask if it would not be good public policy for all Service Providers to obtain spectrum in the same consistent and equitable a fashion -- i.e., via auctions (albeit perhaps "regional auctions" where nationwide carriers may be limited or disqualified from bidding).

Service Providers are interested in obtaining as much spectrum as possible for a low (or no) fee in order to market their services on the acquired frequencies. Certainly, they too, like System Users, want to avoid the costs and hassles of auctions, but in this case its purpose is also to obtain a competitive advantage. If some Service Providers, regional or otherwise, can afford to pay auction prices, why shouldn't all Providers face the same or an appropriately tailored auction block? Certainly the president of a regional Service Provider is much more focused, concerned, and even better equipped to obtain spectrum at any auction than is the CEO of an International Fortune 1000 Company or, for that matter, the president of most small companies not in the communications business.

Certainly, both Private Wireless Users and Providers have expressed their need for additional spectrum.¹³ It may seem arbitrary to divide any new allocation equally; however, it appears to be the opinion of many that Private Wireless usage (and need) is split more-or-less equally. More importantly, as seen in draft legislation, these two segments seem in agreement on an equal split.

III. COMPETITIVE BIDDING INCLUDES "CONTRACTING OUT"

Congress does not define or specify any particular type of auction, only "competitive bidding." As Congress has stated:

Upon enactment of this provision, the FCC shall *initiate the competitive bidding process* in fiscal year 1999 and shall *conduct the competitive bidding* in a manner that ensures that all proceeds of such bidding are deposited in accordance with section 309(j)(8) of the Act not later than September 30, 2000. (*Emphasis added*).¹⁴

Section 309, of course, addresses "USE OF COMPETITIVE BIDDING" and 309(j)(8)(A) deals with "GENERAL RULE" (deposits go to the U.S. Treasury) while 309(j)(8)(B) addresses "RETENTION OF REVENUES" (for offsetting salary and expenses of the

¹³ See Land Mobile Communications Council Petition for Rulemaking (filed April 22, 1998), RM-9267; S.1824, 106th Cong. (Oct. 28, 1999).

¹⁴ S. 1122, 106th Cong. § 8107 (May 25, 1999).

Commission). It appears that this language allows the FCC extensive implementation flexibility.

In Boeing's view, Congress's call for competitive bidding allows the awarding of a service contract in accordance with proscribed Federal (GSA) procedures. Through an exacting evaluation and selection criteria employing a public "down-selection" process, many of the old headaches of Federal procurements can hopefully be avoided. The Commission may need to demonstrate that it is not attempting to Contract-Out for "an inherently governmental function."¹⁵ Also, all contractors should be compelled, after contract award, to produce regular reports and the Commission should call for contract performance audits from time to time.

Boeing believes that efforts to attract both System Users and Service Providers to a combined Band Manager auction will be difficult. Both may be deterred by its methodology. Service Providers, who must compete against national Commercial Providers, some of whom have stockpiled "cheap" spectrum, and System Users alike, forced to pay auction-based prices, will likely first seek spectrum in existing bands. In contrast, "newcomers," seeking both new radios and frequencies, and unaware of historical approaches, may use a Band Manager. The FCC installed customer base that needs this spectrum now, however, will likely drag its heels.

In some filings in this proceeding, we have seen statements lacking identification of cause, effect and the tie between them. For example, Motorola has stated that a Band Manager will obtain spectrum through auction and manage spectrum to maximize efficiency and minimize interference.¹⁶ The two points do not necessarily follow. In fact, the higher the bid auction price, the higher the likelihood of interference. Certainly, a contractual mandate can impose the requirement that their assignments be interference free, but this would have to be enforced via FCC daily management of the vendor. It will not follow naturally.

These two very different markets each deserve to be served by different contractors selected via different criteria and performed under two very different contracts. Furthermore, any vendor serving both groups will always succumb to internal pressures and ultimately compromise purpose and embrace similar or common operational processes. Therefore, these services should be performed by two different organizations. Any organization should be allowed to bid to serve both functions (Administrator and Re-Marketer); however, they should not be awarded both contracts.

Function Performed	Band Administrator	Band Re-Marketer
Market Segment Served	P/W System Users	P/W Service Providers
Goals	1) Serve the needs of this market segment 2) Maintain cooperative environment	1) Serve the needs of this market segment 2) Introduce and sustain competition

¹⁵ See OMB Circular A-76

¹⁶ See Motorola Ex-Parte letter (filed Sept. 29, 1999) in WT Docket No. 99-168.

	3) "Small" efficient spectrum allocations	3) Generate maximum revenues
Eligibility Criteria	1) Not the winning Band Re-Marketer 2) Not Radio equipment manufacturers unless there is structural separation from parent.	1) Not the winning Band Administrator 2) Not Radio equipment manufacturers unless there is structural separation from parent.
Proposal Evaluation & Selection Criteria	1) Offering a price "Schedule" 2) Specification of a set of fiscal incentives for efficient spectrum usage 3) Plan for avoiding congestion and prolonging spectrum inventories	1) Highest bid price 2) Best processes proposed for "reselling" 3) Plan for growing spectrum demand

Boeing believes this approach is simple and flows naturally from a bifurcation of the Private Wireless marketplace. It is fair to all consumers, regulators and prospective and selected contractors. Implementing an Administrator and Re-Marketer and management incentives is congruent with the needs of each target market. Rely on the creativity of two winning bidders on one hand to reward spectrum (technical) efficiency, and the other to rely, as successful as auctions are, on market efficiency.

IV. RECOMMENDATIONS

In light of the foregoing concerns, Boeing offers the following recommendations that it urges the Commission to adopt.

Band Administrator. Boeing recommends establishing only one Band Administrator. Serving System Users should, in many ways, be synonymous with serving the public good. A well-structured and functioning example of successful FCC "contracting out" may go a long way to achieve the Chairman's goals to "deregulate" and "enforce the rules."¹⁷ "Competitive bidding" for a Band Administrator could yield valuable experience for similar public safety (and other "public good") spectrum allocations.

Depending on how the interests of P/W System Users would be protected, a Band Administrator may be allowed to license unused spectrum on a secondary, interim, basis. Considering the FCC's intent on "flexible allocations"¹⁸ and "active secondary"¹⁹ markets, licensing such unused spectrum could provide a lucrative return to the Band Administrator. However, as applications are received from the primary P/W User community, any interim use of this spectrum would have to be immediately relinquished.

Band Re-Marketer. A Re-Marketer should essentially be a reseller of spectrum "acquired" via a highest auction bid (and presumably in excess of a FCC pre-established minimum bid). In so doing, the criteria for selecting a Band Re-Marketer, is the total amount

¹⁷ See Chairman William E. Kennard, "A New FCC for the 21st Century, Draft Strategic Plan" (Aug. 1999).

¹⁸ *1999 FCC Policy Statement*, at ¶ 9.

¹⁹ *Id.* at ¶ 12.

the highest bidder is willing to pay the Federal government for exclusive rights to "resell" this spectrum for some specified period of time (probably 10+ years.) The market "guaranteed" to the winning bidder should be tightly defined so as to maximize their winning bid. We would suggest a Private Wireless Service Provider be defined as "any entity offering any radio service to another party in exchange for any compensation."

Multiple Re-Marketers. Perhaps multiple²⁰ Re-Marketers, and competition among them, may not be necessary. If competition is to be achieved within an allocation of new spectrum, then half as much spectrum must be earmarked if two Band Managers are to compete, and one-third the spectrum if three are to compete, and so on. Competition comes at a dear price when either total supply is finite or when we believe that competition must come from a companion segment within the same allocation. If, however, competition is coming from without (*i.e.*, outside of 746-806 MHz and in the 800MHz, 450MHz or other bands), then why have multiple Re-Marketers artificially create more competition if adequate competition already exists?

A single Re-Marketer also has other advantages. It could be viewed as inequitable to allow multiple Band Re-Marketers to conduct their own individual and continuous competitive bidding cycles. Winners of previous auctions did not have prices inflated because it passed through another set of hands. Also, it was unlikely that Congress intended to allow the Federal government (or Band Re-Marketers) to collect economic rent as market prices continue to escalate. Auctions, it can be argued, should be conducted only at the initial outset and result in an entire block of spectrum being turned over to a single "Band Re-Marketer" for, perhaps, fixed price reselling. The only FCC risk is that a single supplier fixed pricing their spectrum sales may make an inadequate return and go bankrupt. This is an issue we leave with the FCC.

²⁰ See Motorola *Ex Parte* filings (Aug. 13, 1999) in WT Doc. No. 99-168 (suggesting that multiple "Band Managers" are needed).